

Notice of Allowability

Application No.

10/056,665

Examiner

Erick Rekstad

Applicant(s)

RIGNEY ET AL.

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to Amendment filed on April 26, 2005.
2. ☒ The allowed claim(s) is/are 5-19 and 22.
3. ☒ The drawings filed on January 25 2002 are accepted by the Examiner.
4. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) ☐ All b) ☐ Some* c) ☐ None of the:
 1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.
THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

5. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
 6. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
 - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
 - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
 - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
7. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

- | | |
|---|---|
| 1. <input type="checkbox"/> Notice of References Cited (PTO-892) | 5. <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 2. <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 6. <input type="checkbox"/> Interview Summary (PTO-413),
Paper No./Mail Date _____ |
| 3. <input type="checkbox"/> Information Disclosure Statements (PTO-1449 or PTO/SB/08),
Paper No./Mail Date _____ | 7. <input checked="" type="checkbox"/> Examiner's Amendment/Comment |
| 4. <input type="checkbox"/> Examiner's Comment Regarding Requirement for Deposit
of Biological Material | 8. <input checked="" type="checkbox"/> Examiner's Statement of Reasons for Allowance |
| | 9. <input type="checkbox"/> Other _____ |

DETAILED ACTION

This is an allowance for application 10/056,665 in response to the amendment filed on April 26, 2005 in which claims 5-19 and 22 are presented for examination.

EXAMINER'S AMENDMENT

An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it **MUST** be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with Ann Livingston on July 19, 2005.

The application has been amended as follows: Amend claim 5 as shown below.

5. (Currently Amended) A method of using video images to monitor incidents in a region of interest, comprising the steps of:

- computing a reference image from a set of images by removing moving objects from the set of images;

- storing a motion model representing anticipated motion in the region of interest;

- acquiring a image to be analyzed;

- computing a temporal difference image by comparing the image to be analyzed with the reference image;

- repeating the step of computing a temporal difference image to obtain a set of temporal difference images;

calculating, from the set of temporal difference images, at least one temporal difference statistic for each pixel;

detecting motion in a temporal difference image by separating motion pixels from background in the temporal difference image, using the temporal difference statistic; grouping motion pixels into motion objects;

extracting features from the objects;

comparing the features of motion objects to the motion model; ~~and based on the results of the comparing step, classifying the motion objects as being in one of the following classes: anticipated of interest, anticipated not of interest, or not anticipated.~~

wherein the motion model classifies objects as anticipated or not anticipated; and

wherein the motion model further classifies anticipated objects as being of interest or not of interest.

Allowable Subject Matter

Claims 5-19 and 22 are allowed.

The following is an examiner's statement of reasons for allowance:

The claims pertain to a novel method for using video images to monitor incidents in a region of interest that the examiner was unable to find in several prior art searches.

US Patent 5,063,603 to Burt teaches a method of using video images to monitor incidents in a region of interest using the apparatus of Figures 1, 3 and 4.

The method includes the computing a reference image from a set of images with moving objects removed (Col 7 Lines 8-49). The method then acquires an image to be analyzed and computes a temporal difference mage by comparing the image to be

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analyzed with the reference image (Col 7 Line 50-Col 8 Line 21). The method repeats the step of computing a temporal difference image to obtain a set of temporal difference images in order to calculate, detect, and group pixels into motion objects (Col 8 Lines 44-65, Col 12 Lines 9-37, Col 15 Lines 51-62, Fig. 4).

The motion objects are then classified by extracting features and comparing the features of the objects with the motion model (Col 8 Line 44-Col 9 Line 22, Col 10 Lines 6-52). Burt teaches the reference frame obtained by multiple images where the moving objects to be detected are physically removed from the region of interest.

Burt does not teach the classifying the motion objects as being in one of the following classes: anticipated of-interest, anticipated not-of-interest, or not anticipated. Where in theses classes are defined as in the specification (Page 14 Lines 18-32 and Page 15 lines 1-3). These features taken with the others in the claims define over the prior art.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Erick Rekstad whose telephone number is 571-272-7338. The examiner can normally be reached on 8-5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mehrdad Dastouri can be reached on 571-272-7418. The fax phone

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number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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